

Amendments to the Specification:

1. Please replace the paragraph starting at line 25 on page 6 with the following amended paragraph:

Analysis by Synthesis 114 is used by the CELP coder for weakly-voiced frames to encode the pitch, pitch-predictor gain, fixed-codebook contribution, and codebook gain. The initial pitch estimate is obtained from the pitch-and-voicing analysis. The fixed codebook is a sparse codebook with four pulses per 10 ms (80-sample) sub-frame. The pitch-predictor gain and the fixed excitation gain are quantized jointly by Quantization ~~112~~ 110.

2. Please replace the paragraph starting at line 23 on page 7 with the following amended paragraph:

Postfilter 144 with coefficients derived from LP parameters provides ~~---~~ improved perceptual quality.

3. Please replace the paragraph starting at line 1 on page 12 with the following amended paragraph:

The $\{X[k]\}$ may be estimated by applying a discrete Fourier transform to the samples of a single period (or small number of periods) of $e(n)$ as in Figures ~~3b-3c~~ 2a-2b. The preferred embodiment only uses the magnitudes of the Fourier coefficients, although the phases could also be used. Because the LP residual components $\{e(n)\}$ are real, the discrete Fourier transform coefficients $\{X(k)\}$ are conjugate symmetric: $X(k) = X^*(N-k)$ for an N -point discrete Fourier transform. Thus only half of the $\{X(k)\}$ need be used for magnitude considerations. Of course, with a pitch period of p samples, N will be an integer equal to $[p]$ or $[p]+1$.

4. Please replace the paragraph starting at line 12 on page 13 with the following amended paragraph:

(2) apply speech activity detection to each of the ~~six~~ eight 20-sample sub-frames of the frame; the speech activity detection may be by the sum of squares of samples with a threshold.

5. Please add the following new paragraph before line 11 on page 15:

Figure 3 illustrates a first portion of the following code.